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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/695,829

10/30/2003

Koji Yoshida

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09/07/2004

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

NGUYEN, HUNG

ART UNIT

PAPER NUMBER

2851

DATE MAILED: 09/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/695,829

Applicant(s)

YOSHIDA, KOJI

Examiner

Hung Henry V Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/719,178.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>10/30/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. This application filed under former 37 CFR 1.62 lacks the necessary reference to the prior application. A statement reading "This is a continuation of Application No. 09/719,178, filed 12/15/2000." should be entered following the title of the invention or as the first sentence of the specification. Also, the current status of the parent nonprovisional application(s) should be included.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 1-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Nishi et al (U.S.Pat. 6,225,012).

With regard to claims 14-17, 19-22, Nishi et al discloses a position detecting apparatus for detecting a plurality of divided regions on a substrate and comprising all basic structures of the instant claims such as: a substrate stage (10-14) for supporting the substrate (6); an

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observation system for performing image pick up of a substrate stage by using an observation optical system (see col.9, lines 21-51); a driving system (11, 12,) which drives the substrate in a direction perpendicular to the optical axis of the observation optical system (see fig.4); and a processing unit (18) which is electrically connected to the observation system which detects the positional relationship between the arrangement coordinate system of an arrangement of a plurality of divided regions on the substrate using street lines in response to the movement and the reference coordinate system of the stage (see fig.14). Nishi further teaches the observation system is also for detecting the mark formed on the substrate (see col.9, lines 60 thru col.10, line 11) and the control system (16) which is electrically connected to the driving unit for controlling the driving unit to detect the street line in the observation field while the substrate stage is moved; and an illumination system (1A) for emitting energy beam.

With respect to claims 1-13, 18, 23, 20-21, the claimed method is seen to be inherent teachings in the existence of the above apparatus.

4. Claims 1-21 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Yasuda et al (U.S.Pat. 6,278,957).

With regard to claims 1-21, Yasuda et al discloses a position detecting apparatus and corresponding method for detecting a plurality of divided regions on a substrate and comprising all basic structures of the instant claims such as: a substrate stage (9,10) for supporting the substrate (W); an observation system such as laser interferometers for performing image pick up of a substrate stage by using an observation optical system (see fig.19); a driving system (X-Y stage) which drives the substrate in a direction perpendicular to the optical axis of the

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observation optical system ; and a processing unit (435, 500) electrically connected to the observation system which detects the positional relationship between the arrangement coordinate system of an arrangement of a plurality of divided regions on the substrate using street lines in response to the movement and the reference coordinate system of the stage (see abstract) and the observation system is also for detecting the mark formed on the substrate (see figs 8A-8B) and a control system (414) which is electrically connected to the driving unit (412-413) for controlling the driving unit to detect the street line in the observation field while the substrate stage is moved; and an illumination system (IL) for emitting energy beam.

5. Claims 1-21, are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Tanimoto (U.S.Pat. 4,711,567).

With respect to claims 1-21, Tanimoto discloses an exposure apparatus and corresponding method for transferring a predetermined pattern formed on a mask onto a substrate and comprising all of the limitations of the instant claims including: illumination system (1) for emitting the energy beam; a stage (7) for supporting the substrate (10) ; a driving unit for driving the substrate (see fig.2); an observation system having a position detecting means for performing image pick up of the substrate stage (see col.10, lines 44-45) while the substrate is moved by the driving unit and a processing unit/control system (30) connected to the observation system for detecting the positional relationship between a reference coordinate system of the movement of substrate stage and the arrangement coordinate system of a plurality of the divided areas on the substrate based on an image information which is obtained while the substrate stage is moved the driving unit (see figs 10-12), and controlling the driving unit to

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make the observation field of the observation system trace on a route to choose predetermined position detection mark and detecting a position a position of the predetermined position detection mark, and detecting the position of respective divided area based on a detection result of the predetermined detection mark.

Prior Art Made of Record

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Matsugu et al (U.S.Pat. 5,162,656) ; and Nose et al (U.S.Pat. 5,440,394) discloses position detecting device, each of which comprises substantially all elements as recited in the instant claims of the present invention.

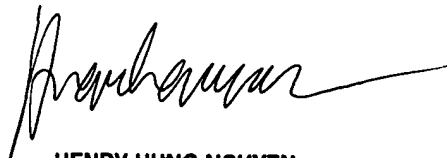
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V Nguyen whose telephone number is 571-272-2124. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

hvn
9/2/04



HENRY HUNG NGUYEN
PRIMARY EXAMINER